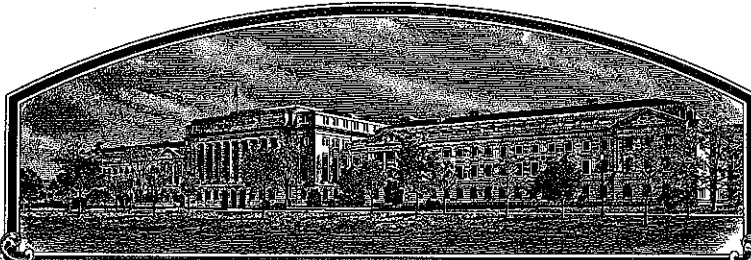


No.

200700304



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Central Valley Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

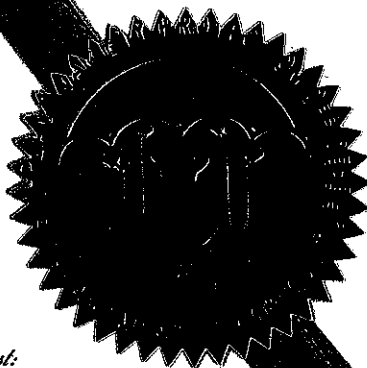
NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

'King Cobra'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this second day of October, in the year two thousand and eight.

Attest:



*[Signature]*

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*[Signature]*

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <b>CENTRAL VALLEY SEEDS, INC.</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME CVX-29		3. VARIETY NAME KING COBRA	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) <b>485 VICTOR WAY, SUITE 10 SALINAS, CA 93907</b>		5. TELEPHONE (include area code) (831) 757-0939		<b>FOR OFFICIAL USE ONLY</b> VPPO NUMBER <b>#200700304</b> FILING DATE <b>MAY 7, 2007</b>	
		6. FAX (include area code) (831) 757-6829			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>CORPORATION</b>		8. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>CA</b>		9. DATE OF INCORPORATION <b>April 14, 1987</b>	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <b>TONY M. AVILA 485 VICTOR WAY, SUITE 10 SALINAS, CA 93907</b>				FILING AND EXAMINATION FEES: \$ <b>4,382.00</b> DATE <b>5/7/07</b> CERTIFICATION FEE: \$ <b>768.00</b> DATE <b>9/17/08</b>	
11. TELEPHONE (include area code) (831) 757-0939		12. FAX (include area code) (831) 757-6829		13. E-MAIL	
14. CROP KIND (Common Name) <b>LETTUCE</b>		16. FAMILY NAME (Botanical) <i>Asteraceae</i>		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP <i>Lactuca sativa</i> L.		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input type="checkbox"/> NO			
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)				20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)				21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
				22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)				24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 			SIGNATURE OF OWNER		
NAME (Please print or type) <b>TONY M. AVILA</b>			NAME (Please print or type)		
CAPACITY OR TITLE Vice President/ R & D		DATE <b>04-23-07</b>		CAPACITY OR TITLE Vice President/ R & D	
				DATE	

(See reverse for instructions and information collection burden statement)

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

**Plant Variety Protection Office**

**Telephone: (301) 504-5518**

**FAX: (301) 504-5291**

**Homepage:** <http://www.ams.usda.gov/science/pvpo/pvpindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

## ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;  
(2) the details of subsequent stages of selection and multiplication;  
(3) evidence of uniformity and stability; and  
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:  
(1) identify these varieties and state all differences objectively;  
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and  
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

**22. CONTINUED FROM FRONT** (Please provide a statement as to the limitation and sequence of generations that may be certified.)

**23. CONTINUED FROM FRONT** (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

06/02/2006

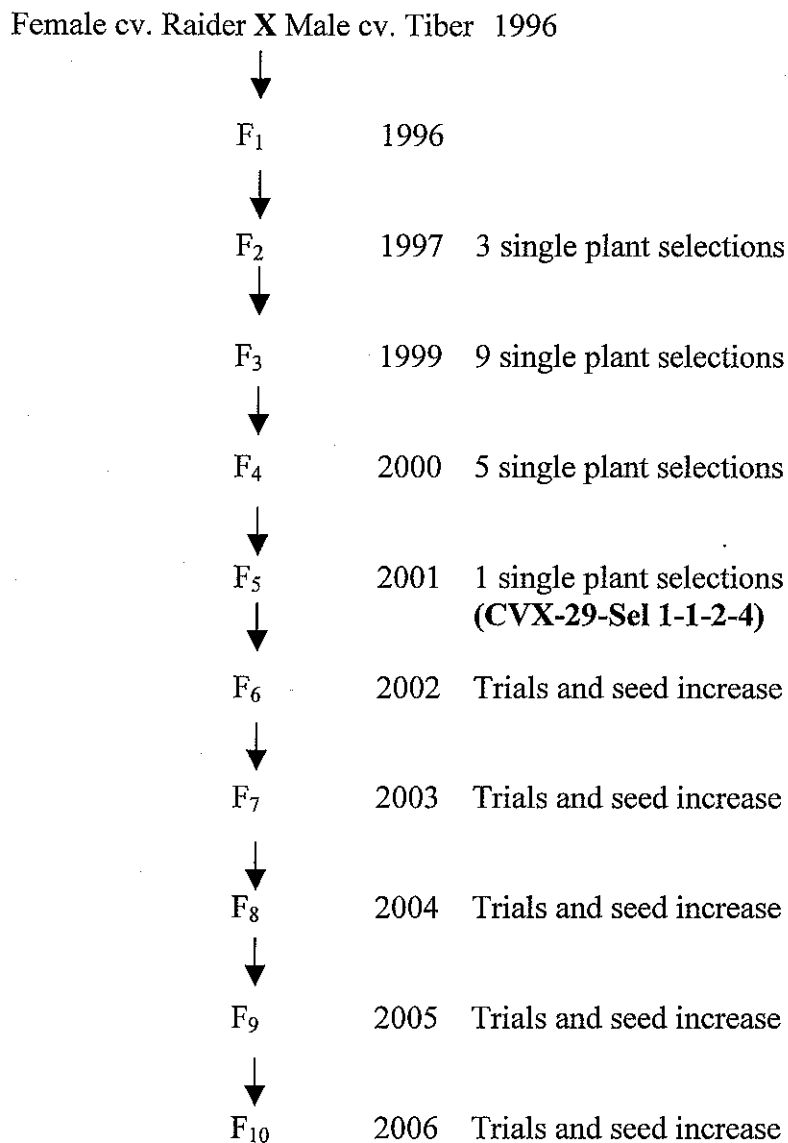
**24. CONTINUED FROM FRONT** (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

**Exhibit A. Origin and Breeding History of Lettuce 'King Cobra' (CVX-29)****Pedigree of cv. King Cobra**

Lettuce 'King Cobra' (CVX-29) was originated in 1996 from a manmade cross between cv. Raider (PVP 8900281) and cv. Tiber, a USDA release. Cv. Raider was chosen as a female for its resistances to bolting and tipburn, sure heading under extreme hot weather and tolerance to rib discoloration. Cv. Tiber was selected as a male for its dark green leaf color, Salinas type leaf texture, round head shape and earlier harvest maturity. Single plant selections were made in subsequent years in the lettuce growing regions for potential commercialization. By generation F<sub>5</sub> a group of five individuals plants were judged be uniform for 100% heading under warm and hot weather. Furthermore, these groups of plants displayed larger heads and frame size, smooth mid ribs and no rib blight and discoloration. In 2002, an F<sub>6</sub> mass was trialed in Winterhaven,

California and a seed increase was produced. In the subsequent years, 2003-2006, additional replicated field trials and observations were conducted in the lettuce production areas of Five Points and Winterhaven, California.

For pedigree selection, a combination of both single and mass plant selection practices were used. By year 2006, 'King Cobra' (CVX-29) was deemed to be a new head lettuce cultivar under our selection criteria for uniformity, large heading and frame size ability under extreme heat and hot weather, increased head weight, smooth mid ribs with and the absence of rib discoloration when compared to the most similar variety, cv. Valley Queen.

During multiple seed increases and field trials, covering generations  $F_6$  to  $F_{10}$ , we observed that lettuce 'King Cobra' is genetically uniform and stable and no genetic variants or off-types have been observed in approximately last five generations.

**Exhibit B. Statement Of Distinctness****Statistical Analysis**

Measurable characteristics were assessed in several localities or dates and the results were analyzed separately. Unless otherwise indicated, the statistical analyses were performed using T-test. The results presented in actual t-value and probability values  $p[t]$  and are statically different at the 95% confidence level.. The standard of deviation for each variety in the comparisons is presented in sigma value. LSD mean 95% corresponds to Least Significant Difference between the means at the 95% probability level.

**Statement Of Distinctness**

Cv. King Cobra belongs to the crisphead Vanguard/Salinas lettuce, *Lactuca sativa* L. varieties. Cv. King Cobra is described as a vigorous cultivar and adapted for both the desert lettuce growing regions of California and Arizona and also for the warm central coast regions of California with optimum sowing during the summer planting season. Cv. King Cobra was selected for improved head size uniformity, increased weight, smooth mid ribs, absence of rib discoloration and overall exceptional field performance grown under warm growing environment when compared to the currently available commercial cultivars under the same sowing and production period.

Phenotypically, 'King Cobra' is distinct from most of the commercial crisphead cultivars and in particular to its most similar variety grown under the same period and environmental conditions, cv. Valley Queen and Laguna Fresca. Cv. King Cobra was compared to its most similar variety cv. Laguna Fresca for the warm central coastal regions of California and was compared against cv. Valley Queen for the desert growing regions of California and Arizona.

Cv. King Cobra also varies form cv. Valley Queen in that in average it has a smaller head diameter (16.50 cm Vs. 17.70 cm), its' weight is significantly heavier (1082.33 g Vs. 959.11 g), its' core length is significantly longer (4.80 cm Vs. 3.68 cm), its' core diameter at the base is greater (3.71 cm Vs. 3.31 cm), its' leaf length is shorter (28.64 cm Vs. 29.50 cm), and its' leaf width is slightly smaller (31.67 cm Vs. 33.47 cm). Furthermore, 'King Cobra' also varies form cv. Valley Queen in the core shape based on the core volume coefficient calculations (17.89 Vs. 12.28) and based on the leaf area coefficient calculations for leaf shape (909.43 Vs. 989.54).

## Amendment to Exhibit B

## Characteristic

	'King Cobra'	vs	'Valley Queen'
Head firmness	Very firm		Firm
Midrib	Flattened		Moderately raised

## Characteristic

	'King Cobra'	vs	'Laguna Fresca'
Seed color	Black		White
Shape of cotyledons	Intermediate		Broad
Shape of fourth leaf	Elongate		Oval
Mature leaf indentation	Crenate		Entire
Glossiness	Moderate		Glossy
Blistering	Absent/slight		Moderate
Bolting leaf margin	Entire		Dentate

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U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY  
Lettuce (*Lactuca sativa* L.)

NAME OF APPLICANT(S) <b>Central Valley Seeds, Inc.</b>	TEMPORARY OR EXPERIMENTAL DESIGNATION <b>CVX-29</b>	VARIETY NAME <b>King Cobra</b>
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) <b>485 Victor Way, #10 Salinas, CA 93907</b>		FOR OFFICIAL USE ONLY PVPO NUMBER <b>#200700304</b>

Place the appropriate number that describes the varietal character in the boxes below. Place a zero in the first box (e.g.    or   ) when number is either 99 or less or 9 or less. Measured data should be the mean of an appropriate number (at least 20) of well space plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The Location of the Test Area is:

**California / Arizona**

Color System Used:

**Munsell**

SPECIFIC VARIETIES USED FOR COMPARISON AS CHECK VARIETIES IN THIS APPLICATION: Use standard regional check varieties, which are adapted to your area. One of the comparison varieties must be the most similar variety used in Exhibit B.

Application Variety (a1) **King Cobra** Most Similar Variety (c1) **Valley Queen**Standard Regional Check Variety (c2) **Laguna Fresca**

## 1. PLANT TYPE: (See List of Suggested Check Varieties on Page 8)

01 = Cutting/Leaf  
02 = Butterhead  
03 = Bibb

04 = Cos or Romaine  
05 = Great Lakes Group  
06 = Vanguard Group

07 = Salinas Group  
08 = Eastern (Ithaca) Group  
09 = Stem

10 = Latin  
11 = Other (Specify)

**Vanguard / Salinas**(a1) (c1) (c2) 

## 2. SEED:

(a1)  } COLOR  
(c1)  } 1 = White (Silver Gray)  
(c2)  } 2 = Black (Grey Brown)  
3 = Brown (Amber)

(a1)  } LIGHT DORMANCY  
(c1)  } 1 = Light Required  
(c2)  } 2 = Light Not Required

(a1)  } HEAT DORMANCY  
(c1)  } 1 = Susceptible  
(c2)  } 2 = Not Susceptible

## 3. COTYLEDON TO FOURTH LEAF STAGE: NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day-old seedling grown under optimal conditions.

SHAPE OF COTYLEDONS: 1 = Broad 2 = Intermediate 3 = Spatulate

(a1) (c1) (c2) 

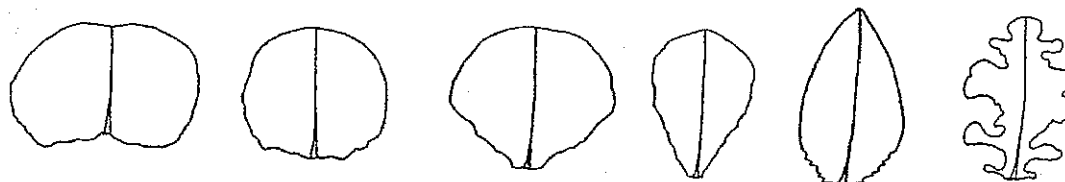
SHAPE OF FOURTH LEAF:

(a1) (c1) (c2) 

7



## 3. COTYLEDON TO FOURTH LEAF STAGE: (continued)



1. Transverse oval

2. Round

3. Oval

4. Elongated

5. Lanceolate

6. Pinnately lobed

LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

(a1) (c1) (c2) 

## APICAL MARGIN:

1 = Entire

2 = Crenate/Gnawed

3 = Finely Dentate

4 = Moderately Dentate

5 = Coarsely Dentate

6 = Incised

7 = Lobed

8 = Other (Specify) \_\_\_\_\_

(a1) (c1) (c2) 

BASAL MARGIN: (Use the options for Apical Margin above)

(a1) (c1) (c2) 

## UNDULATION:

1 = Flat

2 = Slight

3 = Medium

4 = Marked

(a1) (c1) (c2) 

## GREEN COLOR:

1 = Yellow Green

2 = Light Green

3 = Medium Green

4 = Dark Green

5 = Blue Green

6 = Silver Green

7 = Grey Green

(a1) (c1) (c2) 

## ANTHOCYANIN:

## DISTRIBUTION:

1 = Absent

2 = Margin Only

3 = Spotted

4 = Throughout

5 = Other (Specify) \_\_\_\_\_

(a1) (c1) (c2) 

## CONCENTRATION:

1 = Light

2 = Moderate

3 = Intense

(a1) (c1) (c2) 

## ROLLING:

1 = Absent

2 = Present

(a1) (c1) (c2) 

## CUPPING:

1 = Uncupped

2 = Slight

3 = Markedly

(a1) (c1) (c2) 

## REFLEXING:

1 = None

2 = Apical Margin

3 = Lateral Margins

(a1) (c1) (c2)

**4. MATURE LEAVES** (Observe Harvest-Mature Outer Leaves)

NOTE: Provide color photo of a harvest-mature leaf which accurately shows color and margin characteristics.

**MARGIN:****INCISION DEPTH:**  
(deepest penetration  
of the margin)

1 = Absent/Shallow (Dark Green Boston)

2 = Moderate (Vanguard)

3 = Deep (Great Lakes 659)

(a1)

**2**

(c1)

**2**

(c2)

**2****INDENTATION:** (Finest divisions of the margin)

1 = Entire (Dark Green Boston)

4 = Crenate (Vanguard)

2 = Shallowly Dentate (Great Lakes 65)

5 = Other (Specify) \_\_\_\_\_

3 = Deeply Dentate (Great Lakes 659)

(a1)

**4**

(c1)

**4**

(c2)

**2****UNDULATIONS OF THE  
APICAL MARGIN:**

1 = Absent/Slight (Dark Green Boston)

2 = Moderate (Vanguard)

3 = Strong (Great Lakes 659)

(a1)

**2**

(c1)

**2**

(c2)

**2****GREEN COLOR:**

1 = Very Light Green (Bibb)

3 = Medium Green (Great Lakes)

5 = Very Dark Green

2 = Light Green (Minetto)

4 = Dark Green (Vanguard)

6 = Other (Specify) \_\_\_\_\_

(a1)

**4**

(c1)

**3**

(c2)

**4****ANTHOCYANIN:****DISTRIBUTION:**

1 = Absent

3 = Spotted (California Cream Butter)

5 = Other (Specify) \_\_\_\_\_

2 = Margin Only (Big Boston)

4 = Throughout (Prize Head)

(a1)

**1**

(c1)

**1**

(c2)

**1****CONCENTRATION:**

1 = Light (Iceberg)

2 = Moderate (Prize Head)

3 = Intense (Ruby)

(a1)

**1**

(c1)

**1**

(c2)

**1****SIZE:**

1 = Small

2 = Medium

3 = Large

(a1)

**3**

(c1)

**3**

(c2)

**2****GLOSSINESS:**

1 = Dull (Vanguard)

2 = Moderate (Salinas)

3 = Glossy (Great Lakes)

(a1)

**02**

(c1)

**01**

(c2)

**03****BLISTERING:**1 = Absent/Slight  
(Salinas)2 = Moderate  
(Vanguard)3 = Strong  
(Prize Head)

(a1)

**01**

(c1)

**02**

(c2)

**02****LEAF THICKNESS:**

1 = Thin

2 = Intermediate

3 = Thick

(a1)

**03**

(c1)

**03**

(c2)

**03****TRICHOMES:**

1 = Absent (Smooth)

2 = Present (Spiny)

(a1)

**01**

(c1)

**01**

(c2)

**01****5. PLANT:****SPREAD OF FRAME LEAVES:**

(a1)

**32** cm

(c1)

**33** cm

(c2)

**36** cmRAD 8/21/08  
King City, California  
9

## 5. PLANT: (continued)

HEAD DIAMETER: (Market Trimmed with Single Cap Leaf)

(a1) 16 cm

(c1) 17 cm

(c2) 15 cm

HEAD SHAPE:

1 = Flattened

3 = Spherical

5 = Non-Heading

2 = Slightly Flattened

4 = Elongate

6 = Other (Specify) \_\_\_\_\_

(a1) 03

(c1) 03

(c2) 03

HEAD SIZE CLASS:

1 = Small

2 = Medium

3 = Large

(a1) 03

(c1) 03

(c2) 02

HEAD PER CARTON:

(a1) 24

(c1) 24

(c2) 24

HEAD WEIGHT:

(a1) 12728 King City, CA  
1082 g.

(c1) 0960 g.

(c2) 1121 King City, CA g.

HEAD FIRMNESS:

1 = Loose

2 = Moderate

3 = Firm

4 = Very Firm

(a1) 4

(c1) 3

(c2) 3

## 6. BUTT:

SHAPE:

1 = Slightly Concave

2 = Flat

3 = Rounded

(a1) 2

(c1) 2

(c2) 2

MIDRIB:

1 = Flattened (Salinas)

2 = Moderately Raised

3 = Prominently Raised (Great Lakes 659)

(a1) 1

(c1) 2

(c2) 1

## 7. CORE:

DIAMETER AT BASE OF HEAD:

(a1) 37 mm

(c1) 33 mm

(c2) 44 mm

RATIO OF HEAD DIAMETER/CORE DIAMETER:

(a1) 04.3

(c1) 05.2

(c2) 03.5

CORE HEIGHT FROM BASE OF HEAD TO APEX:

(a1) 83 King City, CA  
48 mm

(c1) 37 mm

(c2) 72 King City, CA mm

## 8. BOLTING: (Give First Water Date: 4/26/06)

NOTE: First Water Date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.

NUMBER OF DAYS FROM FIRST WATER DATE TO SEED STALK EMERGENCE: (summer conditions)

(a1) 073

(c1) 080

(c2) 075

BOLTING CLASS:

1 = Very Slow

3 = Medium

5 = Very Rapid

2 = Slow

4 = Rapid

(a1) 2

(c1) 2

(c2) 2

HEIGHT OF MATURE SEED STALK:

(a1) 097

(c1) 108

(c2) 125

(a1) cm (c1) cm (c2) cm

## 8. BOLTING: (continued)

## SPREAD OF BOLTER PLANT: (At widest point)

(a1) 30 cm (c1) 39 cm (c2) 50 cm

BOLTER LEAVES: 1 = Straight 2 = Curved

(a1) 2 (c1) 2 (c2) 1

MARGIN: 1 = Entire 2 = Dentate

(a1) 1 (c1) 1 (c2) 2

COLOR: 1 = Light Green 2 = Medium Green 3 = Dark Green

(a1) 2 (c1) 2 (c2) 2

## BOLTER HABIT:

TERMINAL INFLORESCENCE: 1 = Absent 2 = Present

(a1) 2 (c1) 2 (c2) 2

LATERAL SHOOTS: 1 = Absent 2 = Present

(a1) 2 (c1) 2 (c2) 2

BASAL SIDE SHOOTS: 1 = Absent 2 = Present

(a1) 1 (c1) 1 (c2) 1

## 9. MATURITY: (earliness of harvest-mature head formation)

NOTE: Complete this section for at least one season.

SEASON	APPLICATION VARIETY No. of Days <sup>1</sup>			MOST SIMILAR VARIETY No. of Days <sup>1</sup>			STANDARD REGIONAL CHECK VARIETY No. of Days <sup>1</sup>		
Spring									
Summer	64			71					
Fall	87			91					
Winter									

<sup>1</sup> First Water Date to Harvest

Give Planting Date(s) and Location(s):

Spring:

Summer:

Fall:

Winter:

5/19/06 - 7/28/06 King City, CA

9/28/06 - 12/26/06 Yuma, AZ

## 10. ADAPTATION:

PRIMARY REGIONS OF ADAPTATION (tested and proven adapted):

0 = Not Tested 1 = Not Adapted 2 = Adapted

2

Southwest (CA and/or AZ desert)

2

West Coast

0

Northeast

0

North Central

0

Southeast

0

Other (Specify) \_\_\_\_\_

## 10. ADAPTATION: (Continued)

## SEASON:

☐ Spring (Area \_\_\_\_\_)☒ Summer (Area King City, CA)☒ Fall (Area Desert, AZ)☐ Winter (Area \_\_\_\_\_)☐ GREENHOUSE: 0 = Not Tested

1 = Not Adapted

2 = Adapted

☒ SOIL TYPE: 1 = Mineral

2 = Organic

3 = Both

## 11. VIRAL DISEASES:

1 = Immune

3 = Resistant

5 = Moderately Resistant/Moderately Susceptible

7 = Susceptible

9 = Highly Susceptible

Big Vein	(a1)	<input checked="" type="checkbox"/>	(c1)	<input checked="" type="checkbox"/>	(c2)	<input checked="" type="checkbox"/>
Lettuce Mosaic	(a1)	<input checked="" type="checkbox"/>	(c1)	<input checked="" type="checkbox"/>	(c2)	<input checked="" type="checkbox"/>
Cucumber Mosaic	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Tomato Bushy Stunt, cause of dieback	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Turnip Mosaic	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Beet Western Yellows	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Lettuce Infectious Yellows	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Other (Specify) _____	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

## 12. FUNGAL/BACTERIAL DISEASES:

1 = Immune

3 = Resistant

5 = Moderately Resistant/Moderately Susceptible

7 = Susceptible

9 = Highly Susceptible

Corky Root Rot (Races: _____)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Downy Mildew (Races: _____)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Powdery Mildew	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Sclerotinia Drop	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Bacterial Soft Rot ( <i>Pseudomonas</i> spp. and others)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Botrytis (Grey Mold)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Verticillium Wilt	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Bacterial Leaf Spot	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Anthrachnose	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Other (Specify) _____	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

## 13. INSECTS:

1 = Immune

3 = Resistant

5 = Moderately Resistant/Moderately Susceptible

7 = Susceptible

9 = Highly Susceptible

Cabbage Loopers	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Root Aphids	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Green Peach Aphid	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Lettuce Aphid	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

Pea Leafminer	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Other (Specify) _____	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

**14. PHYSIOLOGICAL STRESSES:**

1 = Immune      3 = Resistant      5 = Moderately Resistant/Moderately Susceptible      7 = Susceptible      9 = Highly Susceptible

Tipburn	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Heat	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Drought	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Cold	(a1)	<input checked="" type="checkbox"/>	(c1)	<input checked="" type="checkbox"/>	(c2)	<input checked="" type="checkbox"/>
Salt	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Brown Rib (Rib Discoloration, Rib Blight)	(a1)	<input checked="" type="checkbox"/>	(c1)	<input checked="" type="checkbox"/>	(c2)	<input checked="" type="checkbox"/>
Other (Specify) _____	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

**15. POST HARVEST STRESS:**

1 = Immune      3 = Resistant      5 = Moderately Resistant/Moderately Susceptible      7 = Susceptible      9 = Highly Susceptible

Pink Rib	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Russet Spotting	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Rusty Brown Discoloration	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Internal Rib Necrosis (Blackheart, Grey Rib, Grey Streak)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Brown Stain	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

**16. BIOCHEMICAL OR ELECTROPHORETIC MARKERS:**

## 17. COMMENTS:

## SUGGESTED CHECK VARIETIES

<u>TYPE</u>	<u>CHECK VARIETY</u>
1 Cutting/Leaf	Waldmann's Green
2 Butterhead	Dark Green Boston
3 Bibb	Bibb
4 Cos or Romain	Parris Island
5 Great Lakes Group	Great Lakes 659-700
6 Vanguard Group	Vanguard
7 Salinas Group	Salinas
8 Eastern Group	Ithaca
9 Stem	Celtuce
10 Latin	Little Gem

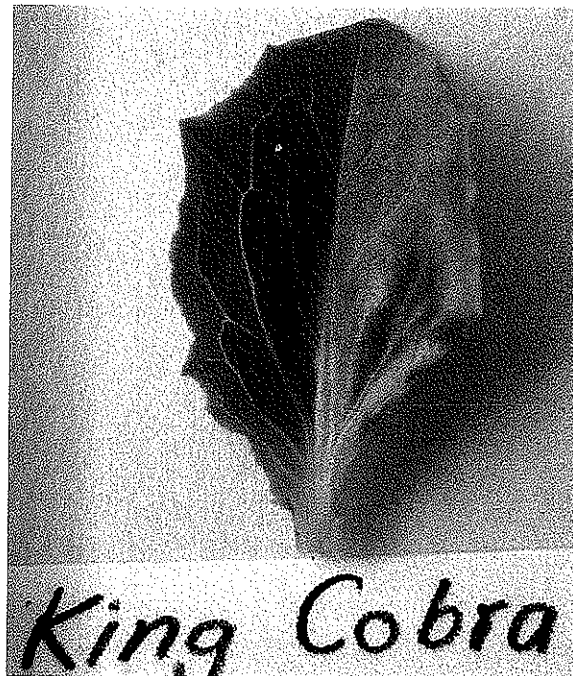
## REFERENCES

- Bowring, J.D.C., 1969, "The Identification of Varieties of Lettuce (*Lactuca Sativa* L.)". Journal of the National Institute of Agricultural Botany 11:499-520. National Institute of Agricultural Botany, Cambridge, UK.
- Davis, R.M., K.V. Subbarao, R.N. Raid, and E.A. Kurtz, 1997. "Compendium of Lettuce Diseases". APS Press, St. Paul, MN.
- Micheltore, R.W., J. M. Norwood, D.S. Ingram, I.R. Crute and P. Nicholson. 1984. "The inheritance of virulence in *Bremia lactucae* to match resistance factors 3, 4, 5, 6, 8, 9, 10, and 11 in lettuce (*Lactuca sativa*)". Plant Pathology 32:176-177.
- Norwood, J.M., R.W. Micheltore, I.R. Crute and D.S. Ingram. 1983. "The inheritance of specific virulence of *Bremia lactucae* (Downy Mildew) to match R-factors 1, 2, 4, 6, and 11 in lettuce (*Lactuca sativa*)". Plant Pathology 32:176-177.
- Rodenburg, C.M., et al., 1960. "Varieties of Lettuce. An International Monograph", Instituut voor de Verdeling van Tuinbouwgewassen (IVT), Wageningen, NL.
- Ryder, E.J., 1999, *Lettuce, Endive, and Chicory*, CABI Publications, Wallingford, UK.

**Exhibit D. Additional Description of Lettuce 'King Cobra' (CVX-29)**



**Photo of 'King Cobra' at cotyledon stage.**



**Photo of 'King Cobra' fourth leaf taken from a 20-day-old seedling grown under optimum conditions.**





**'King Cobra' (CVX-29) crisphead lettuce outer mature leaves at harvest ready stage.**



**'King Cobra' (CVX-29) crisphead lettuce at seed stage. Central Valley Seeds' commercial seed production field, Five Points, California.**

**Lettuce Application 200700304****Table Revised 8.20.2008 per PVP office recommendation**

Table below is the evaluation of 'King Cobra' and the most similar cultivar, cv. Laguna Fresca, for several important field traits.

Variable	Trial Location	No. Plants/ Rep	t*-value	p[t*]	Avg. cv. King Cobra	Avg. cv. Laguna Fresca	LSD Mean 95%	Sigma
Head Diameter (cm)	1	15	4.078	0.001	15.95	15.14	0.45	0.74
	2	15	2.708	0.019	16.29	15.65	0.53	0.89
Avg. Head Diameter (cm)					16.12	15.39		
Plant Weight (g)	1	15	4.921	0.000	1355.3	1186.0	76.95	128.31
	2	15	3.063	0.009	1281.3	1157.3	90.52	150.94
Avg. Plant Weight (g)					1318.3	1171.65		
Core Length (cm)	1	15	5.087	0.000	8.33	7.02	0.57	0.96
	2	15	2.337	0.041	8.82	8.33	0.47	0.79
Avg. Core Length (cm)					8.57	7.65		
Core Diameter (cm)	1	15	8.762	0.000	4.13	4.51	0.10	0.16
	2	15	6.711	0.000	4.25	4.63	0.13	0.21
Avg. Core Diameter (cm)					4.19	4.57		
Leaf Length (cm)	1	15	2.442	0.033	26.54	27.48	0.86	1.44
	2	15	2.692	0.020	26.37	27.77	1.16	1.94
Avg. Leaf Length (cm)					27.45	28.62		
Leaf Width (cm)	1	15	1.603	0.153	35.67	36.71	1.46	2.43
	2	15	0.930	0.402	35.21	36.15	2.24	3.74
Avg. Leaf Width (cm)					35.44	36.43		

p[t\*] statically different at the 95% confidence level.

Field Trial Locations:

1. Rio Farms, Johnson Ranch Lot 212, King City, California. Water date: 5/19/2005, Evaluation date: 7/28/2005.
2. Rio Farms, Johnson Ranch, lot 216, King City, California. Water date: 5/22/2005, Evaluation date: 8/1/2005.

Table below is the evaluation of 'King Cobra' and the most similar cultivar, cv. Valley Queen, for several important field traits.

Variable	Trial Location	No. Plants/ Rep	t*-value	p[t*]	Avg. cv. King Cobra	Avg. cv. Valley Queen	LSD Mean 95%	Sigma
Head Diameter (cm)	1	15	2.415	0.035	16.83	17.70	0.80	1.34
	2	15	4.187	0.001	17.27	18.82	0.83	1.38
	3	15	2.622	0.023	17.33	17.91	0.49	0.82
	4	15	2.636	0.023	17.53	18.18	0.55	0.92
	5	15	2.359	0.039	15.25	15.83	0.56	0.93
	6	15	5.521	0.000	15.27	15.98	0.29	0.48
Avg. Head Diameter (cm)					16.58	17.40		
Plant Weight (g)	1	15	3.171	0.007	918.67	825.33	65.81	109.73
	2	15	5.175	0.000	1212.67	956.00	110.91	184.94
	3	15	1.320	0.237	974.00	922.67	86.96	145.00
	4	15	2.800	0.016	1268.67	1147.33	96.89	161.57
	5	15	2.753	0.018	1130.00	1014.67	93.68	156.2
	6	15	3.369	0.005	990.00	888.67	67.25	112.14
Avg. Plant Weight (g)					1082.33	959.11		
Core Length (cm)	1	15	4.914	0.000	5.27	3.73	0.70	1.16
	2	15	4.730	0.000	5.00	3.70	0.61	1.02
	3	15	4.838	0.000	4.83	3.70	0.52	0.87
	4	15	7.159	0.000	5.90	4.63	0.40	0.66
	5	15	6.969	0.000	4.17	3.53	0.20	0.34
	6	15	8.292	0.000	3.67	2.80	0.23	0.39
Avg. Core Length (cm)					4.80	3.68		
Core Diameter (cm)	1	15	2.963	0.011	3.43	3.22	0.16	0.27
	2	15	7.775	0.000	3.90	3.44	0.13	0.22
	3	15	3.224	0.006	3.53	3.23	0.21	0.35
	4	15	7.801	0.000	4.00	3.56	0.13	0.21
	5	15	4.187	0.001	3.60	3.23	0.20	0.33
	6	15	7.404	0.000	3.80	3.19	0.19	0.31
Avg. Core Diameter (cm)					3.71	3.31		
Leaf Length (cm)	1	15	2.438	0.034	27.67	28.93	1.16	1.93
	2	15	1.486	0.184	29.08	29.62	0.81	1.35
	3	15	2.826	0.015	28.34	29.30	0.76	1.27
	4	15	2.603	0.024	30.21	31.13	0.80	1.33
	5	15	2.526	0.028	29.32	30.08	0.67	1.12
	6	15	2.938	0.012	27.27	27.99	0.55	0.91
Avg. Leaf Length (cm)					28.64	29.50		
Leaf Width (cm)	1	15	5.818	0.000	29.13	32.09	1.14	1.90
	2	15	4.139	0.001	31.42	32.93	0.81	1.35
	3	15	3.280	0.006	30.95	32.57	1.10	1.84
	4	15	4.679	0.000	35.83	37.76	0.92	1.54
	5	15	2.708	0.019	31.77	32.97	0.99	1.65
	6	15	3.543	0.003	30.93	32.50	0.99	1.65
Avg. Leaf Width (cm)					31.67	33.47		
<sup>a</sup> Core volume coefficient	1	15	5.280	0.000	18.08	12.05	2.55	4.26
	2	15	5.999	0.000	19.52	12.76	2.52	4.20
	3	15	5.099	0.000	17.13	12.03	2.24	3.73
	4	15	8.445	0.000	23.63	16.51	1.89	3.15
	5	15	6.781	0.000	15.00	11.44	1.17	1.96

	6	15	9.166	0.000	13.98	8.93	1.23	2.06
Avg. Core vol. coefficient					17.89	12.28		
<sup>b</sup> Leaf area coefficient	1	15	4.918	0.000	807.13	929.35	55.57	92.67
	2	15	3.700	0.002	914.36	975.39	36.88	61.50
	3	15	3.730	0.002	877.22	955.08	46.67	77.83
	4	15	5.494	0.000	1082.40	1175.23	37.78	63.00
	5	15	2.977	0.011	931.64	992.67	45.84	76.43
	6	15	4.180	0.001	843.87	909.55	35.13	58.58
Avg. Leaf area coefficient					909.43	989.54		

$p[t^*]$  statically different at the 95% confidence level.

Field Trial Locations:

4. JV Farms Ranch #542, Tacna AZ. Water date: 9/24/2006, Evaluation date: 12/18/2006.
5. Domingos Farms #614, N. Gila Valley AZ. Water date: 9/25/2006. Evaluation date: 12/19/2006.
6. JV Farms, Ranch #550 Tacna AZ. Water date: 9/26/2006. Evaluation date: 12/19/2006.
7. Melon Farms, Williams Home, Yuma Valley, AZ. Water date: 9/28/2006. Evaluation date: 12/26/2006.
8. Griffin Ranches, Gila Valley, Arizona. Water date: 9/29/2004. Evaluation date: 12/28/2004.
9. T&P Farms, Somerton, Arizona. Water date: 9/29/2004. Evaluation date: 12/30/2004.

<sup>a</sup>**Core volume coefficient.** Calculated by taking the core length and multiplied by diameter which compares the core shapes. The larger the core volume coefficient value, the longer and narrower is the core. Inversely, the smaller the core volume coefficient number, the shorter and stubbier the core.

<sup>a</sup>**Leaf area coefficient:** Comparing leaf areas between the two varieties. This is calculated by multiplying the leaf width by the leaf length.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S)  CENTRAL VALLEY SEEDS, INC.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  CVX-29	3. VARIETY NAME  KING COBRA
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  485 VICTOR WAY, SUITE 10 SALINAS, CA 93907	5. TELEPHONE (Include area code)  (831) 757-0939	6. FAX (Include area code)  (831) 757-6829
7. PVPO NUMBER		#200700304

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

The variety named in this application was developed by Central Valley Seeds, Inc. Unless otherwise noted, all rights to the varieties developed by Central Valley Seeds, Inc. are assigned to the Company and no rights to such invention, discovery or development are retained by the employee(s). Tony M. Avila, Plant Breeder/Research and Development Director and Adolfo Mederos developed the lettuce cv. King Cobra that has been entered in this Plant Variety Protection application for Central Valley Seeds, Inc. Tony M. Avila, Dan M. Avila, Joe M. Avila and John M. Avila are equal owners of Central Valley Seeds, Inc.

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

**Exhibit E. Statement of the Basis of Applicant's Ownership  
(Attachment)**

April 23, 2007

Plant breeders Tony M. Avila and Adolfo Mederos have developed the lettuce cv. King Cobra that has been entered in this Plant Variety Protection application for Central Valley Seeds, Inc.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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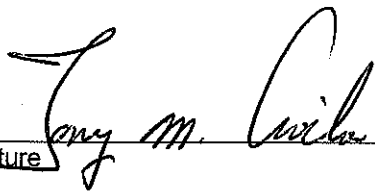
**U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705**

**EXHIBIT F  
DECLARATION REGARDING DEPOSIT**

NAME OF OWNER (S)  CENTRAL VALLEY SEEDS, INC.	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)  485 VICTOR WAY, SUITE 10 SALINAS, CA 93907	TEMPORARY OR EXPERIMENTAL DESIGNATION  CVX-29
NAME OF OWNER REPRESENTATIVE (S)  TONY M. AVILA	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)  485 VICTOR WAY, SUITE 10 SALINAS, CA 93907	VARIETY NAME KING COBRA <div style="background-color: #cccccc; padding: 2px;">FOR OFFICIAL USE ONLY</div> PVPO NUMBER <b>#200700304</b>

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Signature



Date

04-23-07